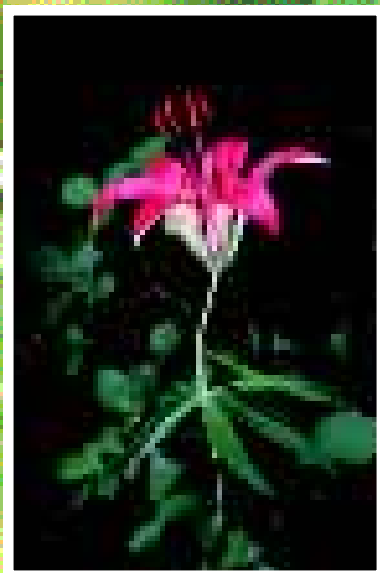
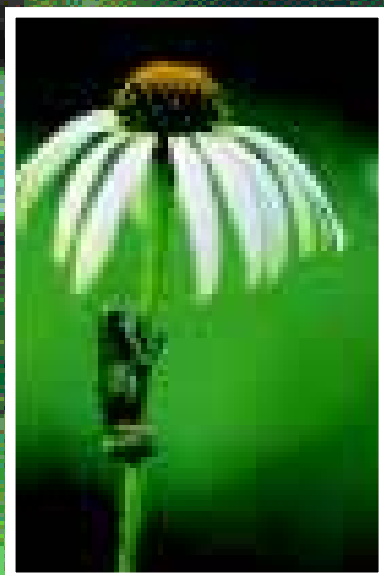


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# Land & Air & Water

Volume 12 Number 2  
Summer 2001



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Kentucky Natural Resources and Environmental Protection Cabinet

# Land Air & Water

State of Kentucky  
Paul E. Patton, *Governor*

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## Department for Surface Mining Reclamation and Enforcement

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# Outstanding environmental projects sought



A school that established a recycling program and a company that dramatically reduced the amount of pollutants it emits—those were two of the winners in last year's Governor's Environmental Excellence Awards competition. Now is the time to nominate a group, business or yourself for this year's honors.

These annual awards recognize those that contribute to the stewardship of Kentucky's natural resources. As in past years, nominees must reside in Kentucky and/or have worked on a project in Kentucky. A nominee that has won the award in the last five years is ineligible. The awards will be presented at the annual Governor's Conference on the Environment on Tuesday, Oct. 30 at the Embassy Suites Lexington.

The nomination form and instructions can be found at <http://www.kyenvironment.org/nrepc/governor/govaward.htm> on the World Wide Web.

They may also be obtained from the division directors' and commissioners' offices of the Natural Resources and Environmental Protection Cabinet or contact Susan French, Department for Natural Resources, at (502) 564-2184.

The cabinet must receive all nomination materials no later than 4:30 p.m. on Sept. 3, 2001. Mail all materials to Stan Henize or Susan French, Department for Natural Resources, 663 Teton Trail, Frankfort, KY 40601.



**Don't miss out on all the fun and exciting things you can learn at the Kentucky State Fair.**

**Check out pages 19 & 20 of this issue and read about the Natural Resources and Environmental Protection Cabinet's exhibit and participation at the fair during Aug. 16-26.**

# Land Air & Water Online

Visit *Land, Air & Water* magazine on the World Wide Web at  
[www.kyenvironment.org/nrepc/landairwater.htm](http://www.kyenvironment.org/nrepc/landairwater.htm)

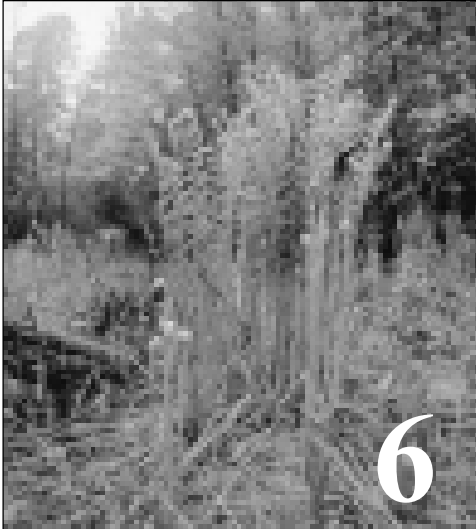
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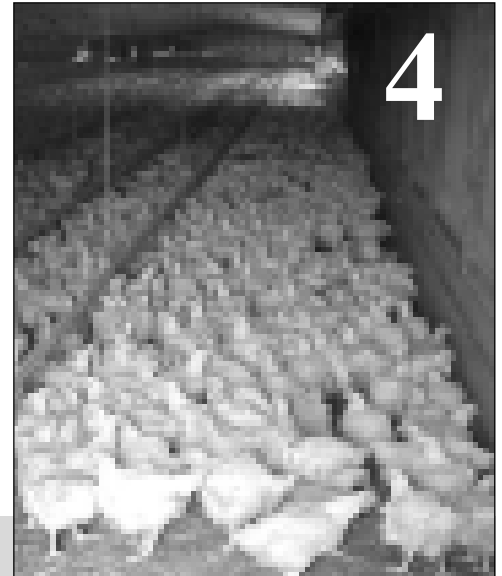
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## Land Air & Water

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## On the Cover

**MAIN PHOTO:** The Indigo Bunting (*Passerina cyanea*) commonly breed throughout the state of Kentucky. Photographed by Thomas Barnes, University of Kentucky.

**INSETS:** A gray tree frog (*Hyla chrysoscelis*) clings to a pale purple coneflower (*Echinacea pallida*). Photograph also by Thomas Barnes. The Wood lily (*Lilium philadelphicum*) is restricted to the western edge of the Cumberland Plateau. Photograph by Nicholas Drozda, Kentucky State Nature Preserves Commission.

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# Pine Mountain school

## Cabinet secretary declares land off limits to mining

By Heather Frederick  
Public Information and Education Branch

**M**ore than 2,000 acres of land around a historic school in southeastern Kentucky is not suitable for mining—that's the ruling of James E. Bickford, secretary of the Natural Resources and Environmental Protection Cabinet on a petition filed by the Pine Mountain Settlement School.

The school provides environmental education to thousands of school students and adults who visit its campus each year. When a coal mining company wanted to move its operations closer to the school's campus, the school's executive director filed a Lands Unsuitable for Mining Petition with the Department for Surface Mining Reclamation and Enforcement (DSMRE).

The petition alleged that the proposed surface mining could cause significant damage to historic and fragile lands and that the mining could result in a substantial loss of or reduction in the long-range availability of water supplies. The school's petition asked for 5,226 acres around the school to be declared unsuitable for mining.

The DSMRE conducted a thorough investigation of the petition's claims. The department also held two nights of public hearings in Harlan County on the petition and received thousands of other comments by mail. The DSMRE compiled its research and public comments into a report it submitted to Secretary Bickford.

After reviewing the report and visiting the site, the secretary signed an order declaring 2,364 acres of land on Pine Mountain off limits to mining.

"The school is truly special and

**"The school is truly special and deserving of protection, which is why surface mining in the area is being prohibited."**

*Secretary James Bickford*



deserving of protection, which is why surface mining in the area is being prohibited," Bickford said. "Blasting could damage the campus, which has already been designated as a National Historic Landmark. The school's viewshed would also be adversely affected by surface mining."

The order notes that 2,862 acres of the petition area, located south of the Pine Mountain Overthrust Fault, contain no identified coal reserves and are not included in the designation.

The order effectively halts an effort by Nally and

Hamilton Enterprises Inc. to expand an existing mining operation in the area. The order affects almost 91 acres of land that the company wanted to mine. The order does not affect previously permitted mining operations already underway in the area.

As of press time, Bledsoe Coal Co. Inc., Nally & Hamilton Enterprises Inc., Kentucky River Coal Corp., BDCC Holding Co. Inc., Mildred Wilder and Jimmy Wilder had appealed the secretary's decision to Franklin Circuit Court.

*The photo above is a view of the Pine Mountain Settlement School property containing buildings designated as National Historic Landmarks.*

Photo by Mark York

### **Lands Unsuitable Petition Pine Mountain Settlement School**

2,350 public comments received:  
2,274 supported petition  
76 opposed petition

### **Facts on Lands Unsuitable Petitions**

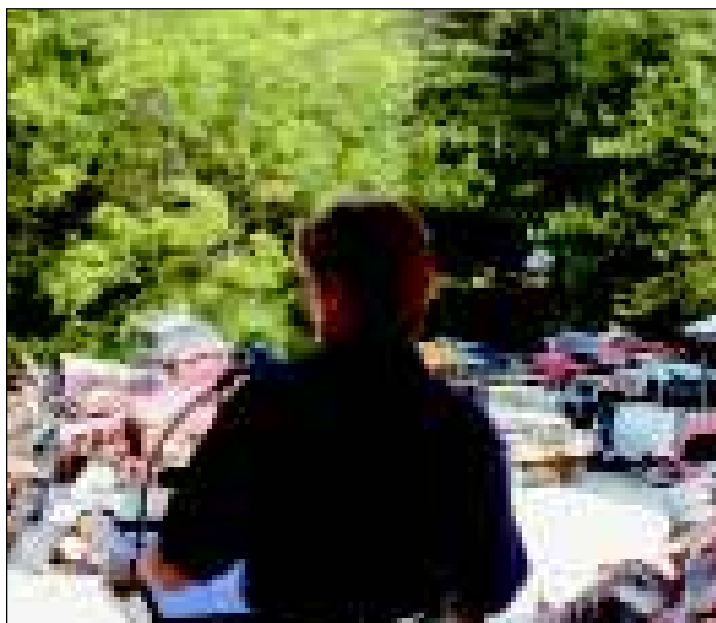
The petition process is allowed under the 1977 federal Surface Mining Act.

Three other petitions have been granted since Kentucky received primacy for the state surface mining regulatory program on May 18, 1982.

# EPA chief visits Commonwealth

By Heather Frederick  
Public Information and Education Branch

*Christine Whitman, the new administrator of the United States Environmental Protection Agency (EPA), visited Kentucky in May to learn more about a program established by Congressman Hal Rogers and Secretary James E. Bickford, Natural Resources and Environmental Protection Cabinet (NREPC). The PRIDE (Personal Responsibility in a Desirable Environment) program is a grassroots effort to improve and protect the environment in 40 counties of southeast Kentucky.*



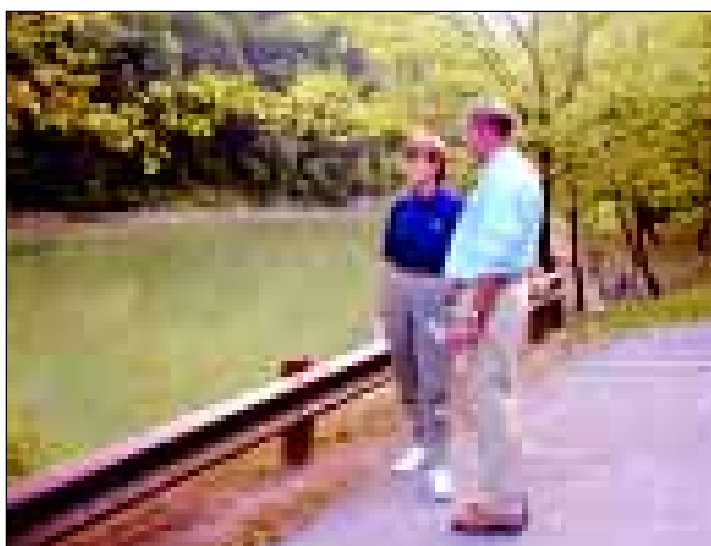
**ABOVE:** At a community center in Perry County, Whitman commends the citizens of Saul for their cleanup efforts. In front of her are some of the more than 100 junk cars the citizens removed from the creekbeds of their community during a two-month period.



**ABOVE RIGHT:** Whitman praises students at Williamsburg High School in Whitley County for their efforts to clean up an illegal dump.

**MIDDLE RIGHT:** The EPA administrator talks with reporters in the Harlan County city of Rio Vista. The city's fiscal court received a PRIDE grant of up to \$100,000 to clean up garbage along a seven-mile stretch of roadway and along the Cumberland River.

**LOWER RIGHT:** NREPC Secretary James Bickford talks with Whitman during a stop at Buckhorn Lake.



Photographs by Mark York

# Governor offers incentive to counties for dump cleanup

By Heather Frederick  
Public Information and Education Branch

Hoping to wipe away the illegal dumps that tarnish the Commonwealth, Gov. Paul Patton has created the Certified Clean County Program. The program offers financial help to eligible counties that want to rid their area of dumps.

"This program can get us started now toward that cleaner Kentucky that we all want for ourselves and our children," the governor said at a news conference announcing the program. "The state will provide existing resources as an incentive to help counties clean up their illegal dumps."

The governor signed an executive order creating the program after the General Assembly failed to pass solid waste legislation in the 2001 session. The program offers to reimburse counties for up to 75 percent of their direct costs of cleaning up illegal dumps. To be eligible for the program, counties must meet the following requirements:

- Have all residents and businesses participating in the mandatory, curbside collection of garbage.
- Commit to clean up all identified illegal dumps and keep them clean.
- Employ a solid waste coordinator with enforcement powers.
- Establish a local committee to increase awareness of the need to keep the county clean.

Funding for the program comes from existing money in the Kentucky

Infrastructure Authority Fund and the Kentucky Transportation Cabinet's Secretary's Discretionary Fund. While the funding will only be available through the next fiscal year, the governor hopes to seek other funding sources to continue the program indefinitely.

The Natural Resources and Environmental Protection Cabinet (NREPC) will work with participating counties to identify their illegal dumps and estimate the cost of cleaning them up. The cabinet will also monitor and assist in the cleanup effort. Once their cleanup is completed, the

will encourage more counties to enact mandatory garbage programs. Having curbside collection of garbage at every home in Kentucky is a key step in putting a permanent end to illegal dumps."

In addition to the reimbursement of cleanup costs, the program offers counties another incentive. Certified counties will receive extra points when applying for grants and will receive priority for funding from the Division of Conservation State Cost Share Program and the Waste Tire Trust Fund.

*Natural  
Resources and  
Environmental  
Protection  
Cabinet  
Secretary James  
Bickford looks  
on as Gov. Paul  
Patton signs the  
executive order  
creating the  
Certified Clean  
County Program  
that offers  
financial support  
to counties that  
want to get rid of  
illegal dumps.*

*Photo by Creative  
Services*



**"This program can get us started now toward that cleaner Kentucky that we all want for ourselves and our children."**

*Gov. Paul Patton*

cabinet will inspect counties and certify them as "dump free." After that, the state will pay for, install and maintain a "Certified Clean County" sign at each entrance to the county.

"We are pleased to be a part of the governor's Clean County Program," said James E. Bickford, secretary of the NREPC. "I believe it is an important advance in our war on illegal dumping. I hope the incentives the program offers

"This Certified Clean County program is not the final solution to our problem. It is just one step that we can take now," Patton said. "I remain committed to a comprehensive program that includes a recycling and education component to clean up Kentucky and keep it clean. The problem will not go away until we take action, and I will keep the issue in the forefront until we do take action," the governor said.



# CAFO regulation leads to constitutional challenge

Stories by Mark York  
Office of the Secretary

Following a ruling in Franklin Circuit Court, the Natural Resources and Environmental Protection Cabinet has challenged the constitutionality of the process for reviewing Executive Branch regulation contained in state law.

The cabinet filed the motion in June in a lawsuit brought by the Kentucky Farm Bureau Federation, and other agricultural groups, regarding a regulation establishing standards for Concentrated Animal Feeding Operations (CAFOs).

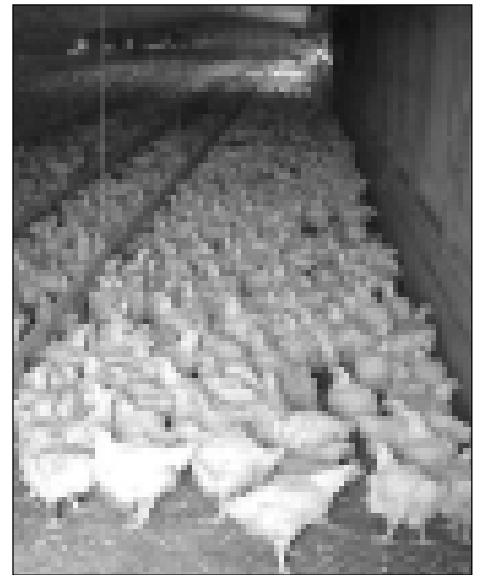
On May 25, 2001, the Franklin Circuit Court declared the regulation void because it is similar to a regulation that expired due to a legislative subcommittee's veto. Since 1998 the cabinet has issued a series of regulations governing large-scale animal feeding operations.

The cabinet believes the subcommittee veto is unconstitutional under the


landmark, and unanimous, separation of powers decision by the Kentucky Supreme Court in *LRC V. Brown*, as well as under Section 81 of the Kentucky Constitution which provides that the governor shall faithfully execute the laws of the Commonwealth.

In the motion filed with the court, the cabinet also asked the court to allow the CAFO regulation to remain in effect until a decision is rendered on the legality of the Kentucky Revised Statute (KRS) 13A process.

In a companion case also filed with the cabinet's motions, the court was also asked to declare as unconstitutional, other important provisions of KRS 13A which intrude upon the authority of the executive branch to issue regulations. "The principle of separation of powers is a vital part of the fabric of our government and each branch has a responsibility to resist any



*The CAFO regulation addresses large-scale feeding operations like this poultry house that contains hundreds of broilers. Broilers are fed and housed until they are ready to be processed.* Cabinet photo

encroachment upon its authority. Given our repeated efforts to issue these important regulations, we believe the time has come to ask the courts for guidance on the constitutionality of the regulatory process," said Gov. Paul Patton. 



*NREPC Secretary James E. Bickford, foreground, listens as Gov. Paul Patton discusses his executive order at the press conference.* Photo by Creative Services

Following the submittal of applications for two dozen power plants in the last 19 months, Governor Paul Patton issued an executive order in June that directed state agencies to temporarily suspend, beginning July 1, the acceptance of applications for new electric generating facilities. The Natural Resources and Environmental Protection Cabinet (NREPC) and the state Public Service Commission (PSC) have been ordered to suspend acceptance of these applications,

## Patton orders suspension of permits for power plants

study a variety of environmental and energy issues and report their findings to the governor by Dec. 7, 2001.


"It is important that we ensure a continued, reliable source of energy for our citizens, but it is also necessary that we study the potential effects that additional air emissions from new plants could bring to the state, as well as their effect upon the electric supply grid," Patton said. "We must strive to strike a balance between our energy needs, our ability to generate energy for others and our commitment for a clean, safe environment."

Patton ordered the NREPC to study the cumulative environmental effects of new power plants as well as the impact new plants could have on existing environmental programs. The executive order directs the PSC, and other agencies,

to study the need for new electric generating capacity, the impact on the electric supply grid, facility siting and economic development issues.

Since October 1999, the state Division for Air Quality (DAQ) has received applications for permits for 24 electric generating units in the state including coal- and gas-fired units. DAQ had issued permits for 12 of those units by June 19, when Patton announced the moratorium.

Patton's order did not affect any applications that had already been filed with the cabinet or the commission, and the suspension on accepting new permits will not exceed 180 days.

The order directs each agency to give particular attention to the utilization of Kentucky coal in the generation of electric power. 

# Forester, volunteers team up to return trees to tornado-damaged areas



By Gwen Holt  
Division of Forestry



**T**ornadoes cause devastation to communities across Kentucky each year. While repairs are made to businesses and homes, there is little thought given to replacing the trees that were destroyed.

The Kentucky Division of Forestry has joined with several volunteer organizations to replant trees in a seven-county area that was hit by a rare January tornado in 1999. The counties in the project area are Daviess, Hancock, Henderson, Union, Ohio, Webster and McLean.

Tim Crowell, a forester from the division's Madisonville office, has joined groups of volunteers and local youth on this two-year project. Its goal is to plant and care for 1,000 trees within the seven-county area. A grant from the National Tree Trust provided 143 trees for each county.

This group of volunteers is known as the "Breathe Easy Corps," and their efforts have received recognition from the Points of Light Foundation. The foundation spotlights volunteer groups who work in their community to help solve serious social concerns.

The Breathe Easy Corps project was created to bring senior citizens and youth together for social interaction. Twenty-two adult volunteers and 35 youth from the school-based Render Education Center of Ohio County teamed up to prepare containers for the seedlings. Thirty public schools in the seven-county area are participating by

having students take care of the potted seedlings that will eventually be planted on school property.

Forester Tim Crowell personally visited many classrooms to teach the students about tree biology, the proper method and location for planting seedlings and the proper way to care for them.

"Being able to educate the volunteers and students and staying with the project from start to finish is one of the most enjoyable experiences I have had as a forester," Crowell said. "The most important part of this project is the people who volunteer to make it a success."

With the help of approximately 448 project volunteers, seedlings have already been permanently planted at nursing homes, senior citizens' homes and senior

project. He taught the volunteers the difference between dirt and soil and how and where to plant the trees. Tim has stuck with us throughout this project and we couldn't have done it without him. The volunteers learned as much from Tim as the students did."

Each county has senior volunteers who will work with local youth in tracking and documenting the growth and survival rate of the trees planted in their community.

The Division of Forestry is proud to be a part of this wonderful project. If your community is conducting similar projects, contact the division for assistance at (800) 866-0555. For additional information about the Points of Light Foundation, visit its Web site at [www.pointsoflight.org](http://www.pointsoflight.org).



housing complexes and churches within the participating counties.

Cathy Campbell, manager of the Retired Senior Volunteer Program, said, "Tim has been the backbone of this

## Tree Project Volunteers:

- Audubon Area Senior Service Corps
- Green River Area Development District Senior Connections Americorps
- KY Reads and Learn Service volunteers

**TOP:** Children and adult volunteers plant tree seedlings on public and private properties.

**CENTER:** Elementary students work together to plant and care for tree seedlings on school property. Photos provided by the Breathe Easy Corps



# More protection for environmentally valuable forest

By Ron Scott  
Kentucky State Nature Preserves Commission

**B**lanton Forest is growing. At a June “open house” celebrating the tremendous public support for preserving the Harlan County forest, the Kentucky State Nature Preserves Commission made an important announcement. The commission said it has acquired the remaining tract of old-growth forest at the site and made it part of the Blanton Forest State Nature Preserve. The addition of this 1,170-acre tract will ensure the forest’s unique natural legacy is perpetually protected and preserved.

“We are thrilled to be able to obtain the second half of this stately and magnificent, old-growth forest for the benefit and enjoyment of future generations of Kentuckians,” said Don Dott, the commission’s executive director. “Blanton Forest is not only a great repository of biological diversity, but also a point of pride for the entire state.”

State and local officials and citizens gathered at Camp Blanton, a private, nonprofit facility adjacent to the state nature preserve, to express their appreciation for Blanton Forest – the largest, old-growth forest in the Commonwealth and one of the largest east of the Mississippi River. Food, entertainment and educational displays kept the forest lovers busy, while Kentucky State Nature Preserves Commission staff conducted guided hikes along the preserve’s hiking trails.

The newly acquired tract of land adjoins the existing 1,075 acres of old-growth forest purchased in 1995 and

brings the total combined acreage of protected core and buffer land within the preserve to 2,580 acres. The commission purchased the newest tract through a discounted sale of the property from the Kentucky Natural Lands Trust (KNLT), which had acquired the land in December 2000. KNLT, a private, nonprofit organization, was created in 1995 to help raise funds to acquire and permanently protect the unique natural resources of Blanton Forest. Combined funding for the purchase included an appropriation from the state general fund, private donations, a Kentucky Heritage Land Conservation Fund grant and a federal Clean Water Act 319 (h) Nonpoint Source Water Pollution grant.

“This old-growth forest community is awe-inspiring and humbling,” said Commissioner Hugh Archer, Kentucky Department for Natural Resources. “It provides an opportunity for research and education, the best kind of economic development opportunity for the region, and will remain a crown jewel of the public’s preserve system. The folks that have dedicated so much of their private time and money to partner with the government programs to establish our largest nature preserve deserve the thanks of generations of future Kentuckians. There is more work to do to secure and buffer the area. This acquisition should be the seed for continued protection efforts all along the Pine Mountain system.”

Kentucky State Nature Preserves



**TOP:** *Downed logs provide habitat for fungus and other species on the forest floor.*

Photo by Pam Spaulding

**ABOVE:** *Ferns emerge in spring at Blanton Forest bog.* Kentucky State Nature Preserves Commission photo

**BACKGROUND:** *Old-growth trees are indicators of highly diverse and unique forest systems.* Photo by Thomas Barnes

Commission staff and volunteers are actively working on constructing a trail system within Blanton Forest, which is expected to be open to the public this fall. Presently, access to this state nature preserve is by permission only.

For more information about Blanton Forest or the work of the Kentucky State Nature Preserves Commission, or to make a donation to further preservation efforts, you can visit these Web sites [www.ky.naturepreserves.org](http://www.ky.naturepreserves.org) and [www.blantonforest.org](http://www.blantonforest.org).



# Students learn about the environment at state Envirothon

Stories by Martin Bess  
Division of Conservation

Southwestern High School in Pulaski County took home the top honor of winning the Kentucky Envirothon in May. The school came in first place in forestry, wildlife and nonpoint source pollution.

The Fayette County 4-H Club finished a close second place, while Crittenden County High School ranked third.

Ten teams qualified for the state competition by participating in two regional competitions held in April. Forty-five teams from 33 counties, 225 students in all, participated in the regional competitions held in Christian and Rowan counties.

By winning the state competition, Southwestern High School will go on to compete in the Canon Envirothon, an international environmental competition for high-school students. The Canon Envirothon will be held during July 24-29, 2001, at Hinds Community College in Raymond, Mississippi. Students will be tested in five areas—soils, forestry, wildlife, aquatics and a current environmental issue entitled “Urban Nonpoint Source Pollution—Household and Home.”

Other site winners included Adair County (4<sup>th</sup> place) in oral presentation, West Carter (5<sup>th</sup> place) in aquatics, and Muhlenberg County North (9<sup>th</sup> place) won the soils category. Other teams competing in the state competition were Boyd County (6<sup>th</sup> place), Lincoln County (7<sup>th</sup> place), Muhlenberg County South (8<sup>th</sup> place) and Todd County (10<sup>th</sup> place).



Southwestern High School students were presented their awards by Pat Henderson, president KACD (second from right) and Betty Barrick, president KACD Auxiliary (far right). Some of their awards included medallions, backpacks, guidebooks and a wildlife print for taking first place in the Envirothon competition.

Photo by Martin Bess

Sponsors of the Kentucky Envirothon are: the Kentucky Association of Conservation Districts, Association of Conservation Districts Auxiliary, Kentucky Department of Fish and Wildlife Resources, Kentucky Department of Agriculture, Kentucky Farm Bureau, Kentucky Environmental Education Council, Kentucky Division of Forestry, Kentucky Division of Water, Kentucky Division of Conservation, Natural Resource Conservation Service, U.S. Forest Service, Breckinridge County Conservation District, Pennyriple Resource Conservation & Development (RC&D), Gateway RC&D and Rowan County Conservation District.

## Conservation district is honored with national award

This spring in Washington, D.C., the Mercer County Conservation District was one of seven conservation districts awarded the National Grand Award District by the National Association of Conservation Districts (NACD). Seven districts were selected from among 53 state-winning districts.

The Goodyear/NACD Conservation Awards program emphasized the concepts of planning for service, organizing to give that service and evaluating district services through the awards evaluation guide. Each district that entered the competition filled out a program self-evaluation guide that helped the district evaluate its annual plan of work performance in several areas—planning for service, organizing for service and measuring for service.

The Mercer County Conservation District is located in the gently rolling bluegrass area of central Kentucky. The county is 162,000 acres in size with 43 percent of the area considered cropland, 42 percent grazing land and 7 percent woodland. The district assisted 2,100 district cooperators, 740 individuals and groups, and five units of government covering 125,500 acres.

Accomplishments of the district:

- A water quality specialist was hired to help meet the requirements of the Agriculture Water Quality Act;
- Four no-till drills and two sprayers were purchased and leased to county residents;
- Sixty animal waste systems were installed with assistance from the district;

- 44,300 tree seedlings were distributed since 1988;
- Two Water Watch kits were provided to the Harrodsburg School system;
- Assistance was provided with more than 6,000 soil tests since 1990;
- A \$750 renewable college scholarship was awarded;
- Area teachers were provided a grant for environmental education; and
- Conservation field days and contest were conducted.

The Goodyear Tire and Rubber Company, which has had longstanding support of the conservation district movement in America, sponsored this event.



# A united front can make recycling efforts a success

By Matt Hackathorn  
Division of Waste Management

The seal of the Commonwealth of Kentucky carries the popular phrase, "United we stand, divided we fall." While our forefathers may not have been thinking about recycling when they adopted those words in 1792, their meaning suits a marketing concept the state would like local recyclers to implement today.

The concept, known as cooperative marketing, encourages recycling organizations in rural areas (e.g., city government, county programs and private industry) to pool their resources for maximum benefit. Pooling resources helps smaller recycling organizations gain a faster return on their investments. Cooperative arrangements also lessen operating responsibilities, save space and ultimately divert more materials from local landfills.

The financial benefits of creating a recycling partnership make it attractive to many programs, according to Rich Green, who heads the Kentucky Recycling and Marketing Assistance (KRMA) program within the Department of Environmental Protection. "A lot of the smaller recycling operations across the state aren't able to consistently generate enough material to attract buyers who will pay top dollar," he said. "A cooperative relationship offers the small recycler advantages such as a more stable revenue flow, access to the best-paying markets and long-term contracts with end-users."

Green points to a successful recycling partnership in Rowan County as an example. The Morehead Community Recycling Center, a co-op between the city of Morehead, Rowan County and Morehead State University, is an innovative partnership that resulted when the

city's former recycling facility was torn down to make way for a new bypass.

April Haight, Morehead State University's recycling and energy conservation manager, organized the effort to create the new facility, which is now equally operated by the three entities. "Our main goal is to recycle as much as possible," said Haight, who chairs the recycling center's six-member board. "If that means taking materials that won't make money, we'll take them so they won't go to the landfill. But we try to do it in the most cost-effective way possible."

Haight, who runs the day-to-day activities of the operation, said the community has rallied around the new center, and recycling numbers are on the rise. "Our total tonnage for all recyclables has increased by 10 to 15 tons per quarter since we opened the facility in October of 2000. If we were all still trying to recycle separately, I know the university would not be able to offer glass, plastic or steel as commodities alone. Nobody would want to mess with our one bale per month."

KRMA staffer Dara Carlisle, who works with Green to improve recycling

programs in Kentucky, said a major goal of co-op marketing is to change the attitude of local officials regarding the service. "Historically, local government recyclers in Kentucky haven't been as efficient as they could be," she said. "If we can convince some of these programs to work together and run their centers more like a business, then perhaps they will be able to recover more of the costs associated with providing the service."

Carlisle said one way recycling centers can improve operations is by



Willard "Shorty" Swanigan, an employee of the Morehead/Rowan County Community Recycling Center, loads a baler with corrugated cardboard from a local business. The center recently received a local Chamber of Commerce Partnership Award for its innovative approach to recycling. Division of Waste Management photo

investing in balers. "These operations lose money every time they transport a trailer load of loose material to a broker or an end-user because they're transporting a lot of air," she said.

The idea of local governments making money through recycling (or at least recouping more expenses) is not inconceivable. In 1994, six counties in western Kentucky began a partnership with Kentucky Correctional Industries by forming the Regional Recycling Corporation Inc. (RRCI). Today, RRCI processes about 1,000 tons of recyclables per year at the Western Kentucky Correctional Complex in Eddyville with the help of inmate labor. A former cannery at the complex was converted into a recycling center to help reduce the overall cost of solid waste management in the region.

"It's not necessarily a money-making proposition, but we just about break even," said Don Pinska, a Department of Corrections supervisor, who oversees day-to-day operations of the business. "We've

*Continued on Page 12*

# Mission accomplished:

## students succeed in Arbor Day assignment



**TOP LEFT:** *More than 100 students from Paul G. Blazer High School in Ashland and the Boyd County Career and Technology Education Center participated in the tree planting restoration in April. Students planted more than 5,000 tree seedlings on a 30-acre tract.*

**TOP RIGHT:** *Massoud Shoa, Kentucky Department for Environmental Protection, watched as a student planted a seedling. Shoa provided oversight on the closure of the landfill for the state.*

**LEFT:** *A pair of students plant silky dogwood seedlings next to one of the site's three ponds. Of the six different seedlings available, the silky dogwood tolerates moist soil the best.*

### Article and photography by Matt Hackathorn Division of Waste Management

As Marty Schmidt quickly high-stepped his way over the bumpy eastern Kentucky hillside, he compared his spring undertaking to Gen. George S. Patton's 1944 march across Europe. "We need more reinforcements to support our effort on the left flank," Schmidt bellowed with a slight chuckle to a nearby group. "If we don't get more support over there soon, we won't be able to complete the mission!"

Schmidt wasn't re-enacting a World War II battle; he was directing the tree

planting activities of a group of environmentally aware students from Ashland and Boyd County. But his intense, yet fatherly, leadership resulted in the planting of about 5,000 tree seedlings during Ashland Inc.'s Arbor Day/Earth Day event at the Boyd County Route 3 Hazardous Waste Landfill site in April.

Schmidt is vice president and director of environmental remediation for URS Corporation, the company that serves as Ashland Inc.'s chief environmental consultant. His team designed the closure plan for the recently capped landfill where the Catlettsburg refinery once disposed of petroleum sludge and other hazardous

materials. He also brainstormed the idea to incorporate students into the restoration plan for the adjacent "clay borrow area," where over 150,000 cubic feet of soil was removed and used to cover the 22-acre landfill last fall.

Schmidt's efforts helped generate a pair of environmental victories for Ashland Inc.

"The state is very happy to finally have this landfill closed, and I'm sure the people of Boyd County are happy as well," said Hazardous Waste Branch Project Engineer Massoud Shoa, who provided oversight on the landfill closure for the Kentucky Department of Environmental Protection. "We received excellent cooperation from Ashland and its contractors, and we're very pleased with the state-of-the-art cap system and its ability to keep the hazardous waste contained."

Bill Olasin, Ashland's director of environmental remediation, said his company spent over \$6 million to properly close the landfill, and will spend approximately \$3 million more over the next 30 years conducting post-closure monitoring. "I believe this project demonstrates how the government, industry and the public can work together for the benefit of all,"



**ABOVE:** Marty Schmidt, URS Corporation, directed students to the next planting area. Schmidt helped organize the activity to educate students about restoring Kentucky's forestland.

**BELOW:** Ashland Inc. treated student volunteers to a well-deserved pizza picnic after the tree-planting activities were complete.



he said.

"We were all very excited to see over 100 students show up to help us replant the trees that had to be excavated from the borrow area. Looking down the road, Ashland Inc. plans to continue working with the schools by hosting field trips a couple of times per year to follow up on the survival and growth rates of the trees planted here," he said.

Floyd Willis, a service forester with the Kentucky Division of Forestry, and Jason Plaxico, a wildlife biologist with the Kentucky Department of Fish and Wildlife Resources, helped formulate a stewardship plan for the Arbor Day/Earth Day event. Together, Willis and Plaxico developed a strategy for restoring approximately 30 acres of disturbed borrow land back to its original condition.

"We wanted to replant both deciduous and coniferous trees that are natural to this area," said Willis. "I recommended six different types of trees, many of which will sprout up here on their own anyway. We also had to consider the condition of the soil after the top foot or so was removed and choose trees that are drought resistant."

Willis and Plaxico both expect the six different types of trees, including white oak, persimmon, black locust, Virginia pine, short leaf pine and silky dogwood, to eventually recreate a diverse ecosystem in

the area. Plaxico said that permanent water sources were also incorporated into the plan for that purpose. "This site now has three new ponds," he said. "Some of the brush and timber left over from the borrow project was clumped around the ponds to help reduce erosion and create additional cover and habitat for wildlife. There's no question the wildlife in this area will benefit from this project."

Schmidt said his idea for the combination Arbor Day/Earth Day event came down to answering the question, "How do we plant 5,000 trees in one day?"

"This event was planned to be both an educational and a hands-on experience for local high-school students," he said. "We couldn't be happier with the outcome. I know these kids helped us out tremendously, and I hope they learned something about Mother Nature in the process."



## Those who participated . . .

An Ashland Wildlife Enhancement Committee consisting of Bill Olatin and Jeff Roberts of Ashland Inc., Kenny Ogilvie of Environmental Strategies Corporation and Dr. Marty Schmidt of URS Corporation, helped put together the Arbor Day/Earth Day activities at the Rt. 3 Hazardous Waste Landfill in Boyd County.

Schmidt said more than 100 kids participated in the event, including 76 students from Paul G. Blazer High School, assisted by teachers Larry Lowe and Steve Dowdy; 25 students from Boyd County Career and Technology Education Center, assisted by teachers Dave Watts and Denny Blevins; and two scouts from Cub Scout Pack 104, assisted by Jeff Roberts. Stephanie Young from the Boyd County Conservation District also participated.

In addition, 24 volunteers from Ashland Inc., 15 volunteers from Marathon Ashland Petroleum LLC, five volunteers from URS Corporation and three volunteers from Environmental Strategies Corporation assisted in the tree planting.



# Repeat customer finds assistance program very valuable

Stories by Rose Marie Wilmoth  
Air Quality Small Business Representative

As Roy Beard, president of Gaddie-Shamrock Inc., released trucks of crushed limestone for delivery, he talked about his company's experience with the Kentucky Business Environmental Assistance Program (KBEAP). The program helped the company with three different air quality permits.

## Third Generation Small Business Owner

Beard represents the third generation of his family in the paving and rock quarry business. In the 1940s, his grandfather, R. E. Gaddie, started the business. Roy's father, Moorman "Monie" Beard, also worked in the business, and in 1999 Monie Beard served on the Small Business Stationary Source Compliance Advisory Panel. The panel makes recommendations to the Division for Air Quality on how to improve its assistance to small businesses. Brothers Roy and Doug Beard now manage the company, which employs about 90 people.

Gaddie-Shamrock Inc. operates quarries in Columbia and Albany, Ky. When asked to describe the company's product Beard said, "We produce limestone aggregate to be used for any kind of paving—from highway to driveway."

## Benefits of Modernization Program

Several years ago, the company decided to modernize its crushing and conveyor systems at both locations. The benefits of the program include fewer emission points and other environmental benefits; improved safety conditions for employees; improvements in product quality; increased productivity; and improved company profitability.

## Help with Permitting Process

When Beard started the modernization program, he called Bill Blacketer, Division for Air Quality (DAQ) Bowling Green Regional Office, for information on how to start the permitting process. Blacketer recommended that he call KBEAP. KBEAP provides technical assistance free of charge to small businesses to help them comply with air

quality regulations.

## Working With KBEAP

KBEAP helped the company prepare its permit application for the portable crusher (shown in operation at right). Beard said the permit preparation went smoothly; KBEAP collected the information it needed efficiently, minimizing the time people at the quarry had to be away from their other work. He commented that the KBEAP staff knew whom to contact at the DAQ and what the division wanted on the permit application. "When you have inspectors telling you to use it (KBEAP), that's another plus."

## Repeat Customer

Things went so smoothly that Beard decided to ask KBEAP for help on a permit modification and now is working with KBEAP on a permit application to install an updated conveyor system at its Columbia plant.

Beard is having the same experience with KBEAP on this third application. Kenya Carroll, environmental assessment specialist with KBEAP, did her homework by reviewing previous company permits and collecting information for the proposed permit in an efficient manner.

## Willing to Promote KBEAP

Because of the success he has had working with Director Greg Copley and



Gary Helm, John Wooldridge and Lonnie Blakey are shown standing in front of the portable crusher at the Columbia location.  
Photo by Rose Marie Wilmoth

others at KBEAP, Beard wants to see the program grow. He plans to call on the program for permit applications for modernization plans at the Albany location.

## Technical Assistance Available

If your company needs assistance similar to that given to Gaddie-Shamrock, call Greg Copley at (800) 562-2327. If your business has less than 100 employees and is independently owned, KBEAP will provide air quality technical and compliance assistance free of charge.

The program gives small businesses the opportunity to correct possible non-compliance with air quality regulations without Division for Air Quality involvement.



## New appointees to Air Quality Small Business Panel

Gov. Paul Patton has appointed Donnie M. Snow of Burlington, Ky. and Stephen D. Merrick of Somerset, Ky. to the Small Business Stationary Source Compliance Advisory Panel (Air Quality Small Business Panel). Both were appointed to represent small businesses that are required to comply with the air quality program.

Snow is president of All-Rite Ready Mix Concrete Co. in Florence and was a 2000 Air Quality Stewardship Award winner. He has served as chairman of the Kentucky Ready Mix Concrete Association Board and has been a leader in preparing educational films on environmental compliance.

Merrick owns Somerset Wood Products in Pulaski County. The company's primary product is wood flooring. Merrick is also serving on the new Kentucky Commission on Small Business Advocacy.

**Next Panel Meeting**—The next panel meeting is scheduled for 1:30 p.m. on July 30, 2001, at the Kentucky Division for Air Quality, 803 Schenkel Lane, Frankfort. For copies of the agenda, call Bobbie Malmer, Commissioner's Office, Department for Environmental Protection at (502)564-2150 two weeks prior to the meeting.

# Mining cupcake mountain

By Alan McQueary

Department for Surface Mining Reclamation and Enforcement

During a recent visit to Shopville Elementary School, Alan McQueary, an inspector with the Department for Surface Mining Reclamation and Enforcement (DSMRE), helped fifth-grade students understand the surface mining process and the value of coal to Kentucky. He used baked muffins to represent the different phases of the mining process.

McQueary gave each student a white cupcake made with a chocolate center and topped with icing. Each part of the cupcake symbolized a part of mining—the chocolate center (coal), the icing (topsoil) and the white layer (overburden). As McQueary described each mining activity, the students were asked to remove, or mine, the chocolate layer (coal) while saving the icing and white layers (topsoil and overburden) to be replaced, or reclaimed, later.

During the presentation, students asked many interesting questions such as

how much of the school's electricity comes from coal. McQueary explained the importance of the mineral and also about mining oversight, which is the responsibility of the DSMRE.

During the presentation, Kandy White, the students' teacher, talked about her personal experiences with mining. She grew up in Harlan County, and her father worked in the mining industry for 24 years.

White's classroom provided a good learning environment for the children with bulletin boards full of information and pictures and a video camera used to motivate students as they "mined their cupcakes."

One of McQueary's goals was to help make science more interesting for the students. After the presentation, the students ended the learning activity by eating their cupcakes and washing

them down with milk provided by Flavorich in London, Ky.

**ABOVE:** Alan McQueary distributes cupcakes to the students.

**LOWER LEFT:** Students follow McQueary's instructions as they 'mine' their cupcakes for the chocolate (coal) center.

Photos by Jay Hamon, DSMRE



## A united front can make recycling efforts a success

*Continued from Page 8*

had years where we made money, but we're dealing with commodities in this business and it's up and down."

Pinska said he receives materials from Caldwell, Crittenden, Livingston, Lyon, Marshall and Trigg counties. Once inmates sort the various recyclables, including the different grades of paper, plastic, glass and metal, the material is baled and staged in individual truckloads for shipping.

"We market most of the material through Smurfit Recycling out of Nashville," said Pinska. "Smurfit is a broker for us; they find the end-user and arrange the transportation."

Green said recyclers interested in developing a network should consider several infrastructure needs. "The marketing facility where the satellite programs drop their materials needs to be large enough to accept the various forms of material and have enough lot space to stage trailers," he said. "Also, the operation would require at least one baler and a forklift or front-end loader to move the heavy bales."

The KRMA program can offer advice and several free materials to interested recyclers, including information on identifying markets, setting up collection, finding the right building and equipment, drafting agreements, even getting financing. Small recycling operations can learn more about the cooperative concept by calling Green at (502) 564-6716 ext. 623.

# Firefighting, inspections and water supply planning take high-tech turn

By Heather Frederick  
Public Information and Education Branch

*This article is part two of a report begun in our last issue on the use of Geographic Information System (GIS) technology in the Natural Resources and Environmental Protection Cabinet (NREPC). GIS allows users to combine "layers" of data and mapped information into maps that help the cabinet handle emergency situations, improve the way it carries out its daily responsibilities and make decisions for long-term planning.*

When forest fires blaze through Kentucky, GIS provides the state's **Division of Forestry** with very valuable information as it plans the best way to stop the flames.

Division employees in airplanes spot fires and radio back their latitude and longitude coordinates. When Division of Forestry personnel enter those coordinates into a computer, GIS software places a symbol on a map to show where the reported fire is located.

Once employees have pinpointed the fire's location, they can overlay it onto digital aerial and topographic maps of the area. These maps are key in the tactical planning of firefighting by providing information about proximity to homes, access roads and fire hydrants. Users can quickly determine acreage or measure distances in the affected areas.

"This visual feedback is an incredible tool for us," said Roy Boggs, GIS coordinator for the Division of Forestry. "The software shows us how many acres a particular fire might burn. It enables us to see that deploying resources to one portion of the fire could save 1,000 acres, while attacking the fire from the other end might save only 100. We can make important choices by seeing the areas of homes and property affected. The real power of this technology is for real-time decision making, and it has

significantly improved our ability to fight fires more safely and efficiently."

Boggs ranks as the division's expert on the use of GIS. Three years ago, he began using the software through a cooperative arrangement with the Big Sandy Area Development District. For two years, he ran a pilot project with the software out of his office in the Division of Forestry's eastern Kentucky office in Betsy Layne. The technology got put to the test during the intense outbreak of fires the area experienced in the fall of 1999. After seeing how successful GIS proved to be during those fires, the Division of Forestry decided to institute



## About the divisions . . .

*The Division of Forestry works to improve, maintain and protect the health and condition of Kentucky's forest resources. It also provides educational opportunities to increase public appreciation, awareness and knowledge of Kentucky's forests.*

*The Division of Water's mission is to manage, protect and enhance the water resources of the Commonwealth for present and future generations through voluntary, regulatory and educational programs.*

the technology in its offices across the state.

Forest fires aren't the only targets for the technology. The division also uses GIS for logging inspections it conducts in conjunction with the Kentucky Forest Conservation Act. Forest ranger technicians and service foresters use handheld global positioning satellite (GPS) units to record the coordinates of violations, skid trails and landings (timber loading areas) on logging sites. Once the GPS information is entered into GIS software, it produces a map that offers an accurate view of logging sites. The division has purchased 150 GPS units for distribution to each of its service foresters and forest ranger technicians.

The division's other main use for GIS is in its work with land-owners who want to develop stewardship plans for their forestland. Using the GIS software, forestry employees can generate maps that show

*This map highlights the number of wildfires and acres burned this spring in six counties in the eastern district of Kentucky.*



landowners' property boundaries, the condition of their forest and the type of trees it contains. Depending on what the landowner wants to use his land for (timber harvesting, wildlife, etc.), GIS maps can show the different management techniques needed at the site.

Boggs is excited about the opportunities GIS provides. "We are ahead of many other states in the Southeast in the use of this technology in fighting fires," he said. "Our office in Betsy Layne was the proving ground for this technology in the Division of Forestry. I'm glad that the applications we developed led the division to commit to using this software across the state."

**The Division of Water** is exploring the uses of GIS technology in its field offices too. Richard McGehee, an environmental inspector in the division's Bowling Green office, finds the technology to be helpful as he plans his inspections of oil and gas facilities.

The division inspects crude oil production facilities to ensure that the operators properly handle the water produced when petroleum is pumped out of the ground. In one county alone, there can be up to 400 facilities needing inspection. McGehee uses GIS to plot these facilities on a map and then color-code them according to their inspection status. Red highlights those that need an inspection, and blue marks those with completed inspections.

"Seeing the workload in a map format is more efficient than trying to plan a day's work from a list," McGehee said.

His work with inspection mapping serves as a pilot project for McGehee's division. He's also trying out GIS software on another project—an industrial site which has dozens of PCB monitoring wells in place as part of its efforts to clean up past contamination. When McGehee receives reports of PCB concentrations from the wells, he overlays the readings and well locations onto an aerial photo of the industrial site.

"Showing contamination concentrations on an aerial photo helps everyone understand whether it is close to residential, industrial or agricultural areas," McGehee said.

While this is the only PCB-monitoring site McGehee is currently using GIS to map, he sees its potential for use on other long-term cleanup projects that produce lots of data.

The Bowling Green office isn't the only section of the Division of Water seeing the benefits of GIS. The central office in Frankfort uses the technology to help it make decisions on permits and funding for water and sewer projects.

The central office is making significant contributions to the state's Water Resource Information System (WRIS). Data maintained in the WRIS provides a clearer view of the state's water and wastewater infrastructure, surface and groundwater sources, and threats to the Commonwealth's water supplies. This constantly updated collection of data helps move the state closer to Gov. Patton's goal of providing potable water to all of the state by the year 2020.

One particular map generated from the WRIS GIS data shows which areas of the state can support conventional septic systems based on their geologic features, topographic features and other geophysical constraints. It can be accessed on the Internet at <http://kymartian.state.ky.us/kia/mapgis/othermaps.htm>.

**"One of the most important benefits of this technology (GIS) is that it will provide real-time, instant access to information for local planning officials."**

*Peter Goodmann  
Groundwater Branch*

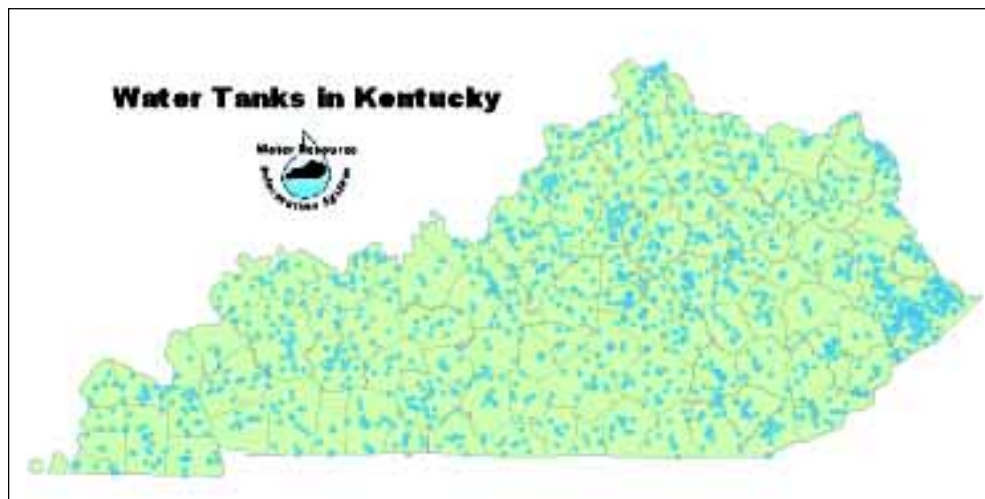
[ky.us/kia/mapgis/othermaps.htm](http://kymartian.state.ky.us/kia/mapgis/othermaps.htm). The Cabinet for Health Services, Kentucky Geological Survey, Kentucky Public Service Commission and NREPC's Office of Information Services all played a role in the creation of this map.

Other maps show the locations of water and wastewater treatment plants. In addition to the locational data, information such as treatment capacity, ownership and treatment processes for the facilities can be accessed. Users can also search for water distribution lines, sewer collection lines and all associated equipment.

Many of the maps created with WRIS data will be available to county water supply planners sometime this summer. They will be able to access the maps and corresponding GIS layers over the Internet when updating their water supply plans.

"One of the most important benefits of this technology is that it will provide real-time, instant access to information for local planning officials," said Peter Goodmann, manager of the Division of Water's Groundwater Branch. "They will be able to submit their water supply plan information electronically, and those plans will be automatically updated online when new information is added to our database."

*This map shows public water supply tanks in Kentucky. It is part of the GIS project involving the Kentucky Division of Water and other state agencies.*



# Cleaning up Fort Campbell

By Matt Hackathorn  
Division of Waste Management

For the troops who inhabit Fort Campbell, Ky., air assault is a primary mission, but an unfortunate situation at the post airfield has environmental contractors working to clean up an assault on the earth.

U.S. Army contractors, state regulators and U.S. Environmental Protection Agency (EPA) officials have known since 1987 that jet fuel contaminates the ground underneath the Campbell Army Airfield (CAAF) in Christian County. Determining how to clean up the mess has posed quite a challenge.

Army contractors have worked since the release was identified to remove the contamination. The environmental technology available 14 years ago was insufficient to adequately address the problem, according to Army consultant Jim Dudley of Jones Technologies in Laham, Md. "We've tried about everything that's become available over the years, including pump and treat systems and open ventilation," he said. "Those methods just weren't very effective in this area."

The challenges lie underneath the airfield, where the dense, clay soil and complex karst limestone system (anywhere from 50 to 100 feet below ground) present more questions than answers when it comes to removing spilled fuel and its vapors. To make matters worse, the soil and groundwater underneath the airfield is likely saturated with thousands of gallons of fuel.

"Fort Campbell airfield fuels aircraft from an underground hydrant fuel distribution system that is similar to a filling station's," said Kentucky Hazardous Waste Branch Project Manager Jeff Carter, who oversees remedial operations at Fort Campbell. "One of the older lines that was installed during the 1940s failed at some point and began leaking in several places. Since Fort Campbell handles millions of gallons of fuel through its system every year, it's easy to see the potential for a significant release."



A long-term investigation into the extent of the contamination and a permanent cleanup plan is ongoing between Army contractors and state regulators. In the meantime, an interim measure for cleaning up the contamination started in April 2001 and has pleasantly surprised environmental officials. It consistently removes an average of more than 2,000 gallons of fuel from the ground each week.

It's called the Soil Vapor Extraction System. In May 2000, state regulators convinced Army contractors and the U.S. Army Corps of Engineers to run a pilot test of this new vacuum technology, even though it's rarely successful in subsurface areas with dense clay.

"It became clear to us that previous theories just weren't working, and we needed to try something different," said Carter. "The Hazardous Waste corrective action team analyzed the data from soil borings and developed a theory that perhaps the clay above the karst system wasn't as dense and impermeable as everyone originally thought. We reasoned that maybe the clay soil had a highly developed series of vertical cracks in it that would allow the fuel to move up and down through the clay a little more freely. If that theory is true, then as the water table under the airfield rises and falls, fuel may migrate down through these fractures, encounter layers of sand and begin to spread laterally."

The success of last year's pilot test

encouraged the Army to expand the interim testing and evaluate its usefulness over a longer period. "The beauty of this new system is that it's mobile," said Dudley. "We'll run it at one location for 90 days, then turn it off and let the groundwater recharge. Then we'll collect some samples and see how they look. If the samples look good we'll move it to another spot."

The relatively new technology consists of a vacuum truck, a storage tank and two propane-powered engines. It operates by sucking fuel, groundwater and vapors out of monitoring wells simultaneously. The groundwater is run through an air stripper to remove contaminants and stored in a holding tank to determine its quality before either putting it back into the ground or sending it to a treatment facility. The fuel is pumped to the storage tank, and the vapors are run through the two engines and burned.

"We're experiencing some interesting events at this site," said Carter. "In one monitoring well, for example, the extraction system is pulling vapors out of the ground that are so rich they can run both treatment engines without any augmenting fuel and at a minimum vacuum level. That's unusual."

Carter said the environmental work at Fort Campbell will likely continue for the next several years. "The airfield contamination is just one area of concern the Department of Environmental Protection has at Fort Campbell. Overall, the corrective actions team has identified 174 areas on the Kentucky portion of the post (much of the installation is located across the state line in Tennessee) that need to be addressed — contamination at maintenance shops, in oil/water separators, at fire training areas, etc."

The overall facility investigation is currently in phase two of a three-phase process. Phase one involved the gathering and analysis of samples. Phase two involves defining the extent of the contamination, and phase three will involve conducting a study to come up with corrective measures for the Army's contractors to implement.



# Kentucky school becomes first to participate in solar energy initiative

By Karen Landry  
Division of Energy

The morning rain stopped, and the sun made its way out of the clouds just in time to shine brightly on the people gathered to celebrate the groundbreaking of the 1,000-watt solar panel. The students and staff of Greenup County's Wurtland Elementary were proud to showcase their project, the first Kentucky school partnership in the U.S. Department of Energy's (USDOE) Million Solar Roofs Initiative.

The solar system installed at Wurtland Elementary was funded by an Eisenhower grant and donations from AEP. The 1,000-watt system consists of twenty 50-watt panels connected and mounted on a pole and electrically connected to the school building and the electric grid.

Internet-based, energy-management software developed by AEP, called Datapult<sup>SM</sup>, allows students, teachers and others to track the amount of electricity supplied by the solar panels and compare

Powell reminded everyone of the sun's importance stating, "From the basic building blocks of photosynthesis to the complex and sophisticated photovoltaic system which we dedicated here today, it is important that we appreciate the gift of the sun and use it to the greatest good of each of us."

The project teaches students about alternative energy sources and the economic and environmental effects of the production and use of energy. It also teaches science and math skills the students will use throughout their lives.

The partnership, which brings together private industry, state and federal government, educators, local citizens and others, gives students tools that help them connect what they've learned in the classroom to their everyday activities. Through the Datapult<sup>SM</sup> system, they will see the direct link between energy production and use as they monitor the electricity generated by the solar panels.



*Pictured at the Learning from Light! groundbreaking are (left to right) Director John Davies, Kentucky Division of Energy; Sue Dowdy, field representative for U.S. Rep. Ken Lucas; Bobby Carpenter, Lt. Gov. Steve Henry; Jim Powell; State Rep. Tanya Pullin; Bruce Williams; Guy Cerimele, state environmental affairs manager, American Electric Power; and Louie The Lightning Bug (AEP). Division of Energy photo*

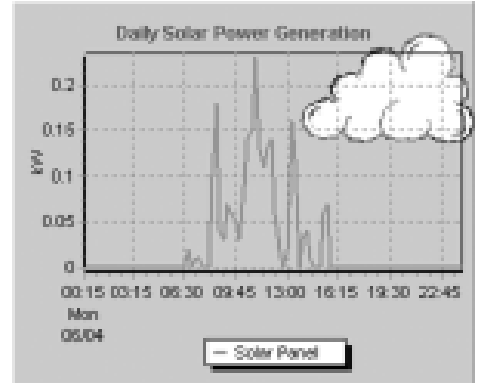
Million Solar Roofs is a voluntary effort, lead by the USDOE, to increase use of solar energy systems and build market demand to improve the economy and the environment. Its goal is installation of 1 million solar energy systems in the United States by 2010.

Wurtland Elementary School installed the system through the *Learning from Light!* program, a cooperative effort of American Electric Power (AEP), federal and state governments, local communities and other partners to help schools worldwide install solar energy systems and teach students about energy resources. There are currently more than 70 *Learning from Light!* projects at schools in the United States and Bolivia.

it to the school's energy demand.

The June 1 groundbreaking ceremony featured distinguished guests including Kentucky Lt. Gov. Steve Henry and Kentucky Natural Resources and Environmental Protection Cabinet (NREPC) Deputy Secretary Bruce Williams.

Speakers during festivities at the nearby McConnell House included Lt. Gov. Steve Henry; Director James R. Powell, Atlanta Regional Office, USDOE; State Rep. Tanya Pullin; NREPC Deputy Secretary Bruce Williams; Superintendent Sheila Reeder, Greenup County schools; Greenup County Judge-Executive Bobby Carpenter; Mayor Donna Hayes, Wurtland; and Timothy Mosher, AEP's Kentucky state president.



*The 1,000-watt system will provide a portion of the school's energy. Through Datapult<sup>SM</sup>, students can monitor energy use in the school and create a variety of graphs, like the one above.*

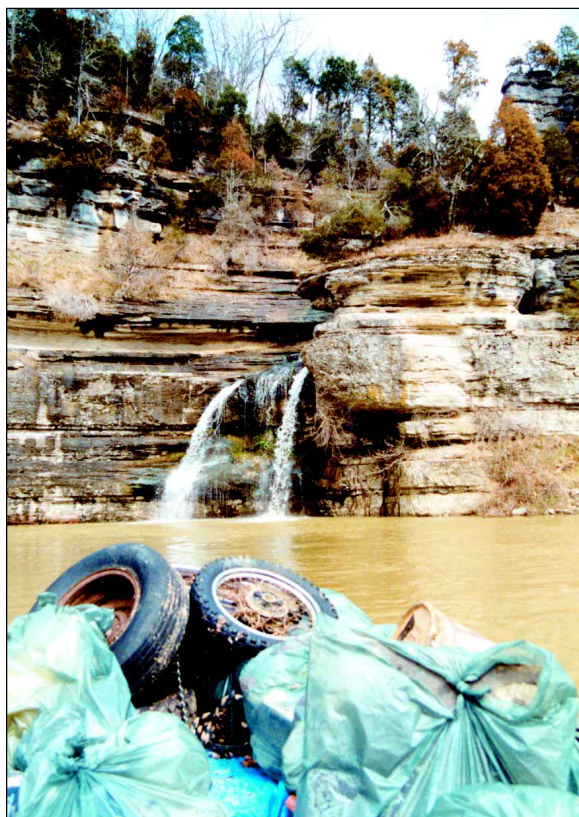
*Visit [www.aep.com/environmental/solar/graphs/default.htm](http://www.aep.com/environmental/solar/graphs/default.htm) to view the graphs of participating schools in other states.*

Organizations collaborating on the *Learning from Light!* program at Wurtland Elementary included AEP, Greenup County School District, Kentucky NREPC, Kentucky Division of Energy, USDOE and the Foundation for Environmental Education.





**ABOVE:** Cleanup crews target a hillside dump in Harlan County.  
**BELOW:** Secretary James E. Bickford, Natural Resources and Environmental Protection Cabinet, helped tackle the trash.  
 Creative Services photos



**RIGHT:** Kentucky Governor Paul E. Patton loads a bag of garbage onto the "KJS Patton." KJS stands for "Kentucky junk sled," a device designed by Kentucky Division of Waste Management employee George Gilbert. Gilbert developed the device after Gov. Patton suggested the use of a sled in 1999 when he assisted in the cleanup of an illegal dump.  
 Creative Services photo



**LEFT:** Ten bags of trash and seven waste tires were cleaned up along the banks of the Kentucky River in Woodford and Mercer counties by volunteer Philip Young. Photo by Philip Young

# Commonwealth Cleans Up



**By Heather Frederick**  
**Public Information and Education Branch**

More than 13,000 Kentuckians pitched in to "spring clean" their state during Commonwealth Cleanup Week 2001, March 24-31. The third-annual event brought together state and local government workers, businesses and volunteers who collected 49,724 bags of trash, 43,599 tires and 17,385 appliances.

Those figures include the cleanup of 166 illegal dumps and a total of 5,503 tons of trash disposed.

Nonprofit groups who completed a cleanup project during Commonwealth Cleanup Week had the opportunity to enter a random drawing for cash prizes. Each group that entered the drawing had its cleanup work verified by the county's solid waste coordinator. The winners of this year's drawing are:

- ✧ First Prize, \$500: Williamstown Pentecostal Church Youth Group, Grant County.
- ✧ Second Prize, \$250: St. Paul Catholic School, Grayson County.
- ✧ Third Prize, \$100: Southside Elementary School, Woodford County.



# NREPC participates in “Kentucky Works-Earth Day 2001”

By Lillie Cox  
Division for Air Quality

More than 2,000 students and teachers from across the Commonwealth gathered to learn more about protecting our natural resources during the “Kentucky Works-Earth Day 2001.” The event took place April 19, at the Center for Rural Development in Somerset.

For five years, “Kentucky Works-Earth Day” has showcased dozens of Kentucky businesses, agricultural groups, the Natural Resources and Environmental Protection Cabinet (NREPC) and other state agencies. Exciting exhibits with hands-on activities helped students to “Think Earth” and to learn what they can do to help.



*Natural Resources and Environmental Protection Cabinet employees worked with students at the “Kentucky Works-Earth Day” event in April. (Front row, left to right) Dylan Jones, Division of Forestry; Joan Knopp, Division of Waste Management; Amy Covert and Emily Crain, Kentucky State Nature Preserves Commission; and Joan Garrison, Division of Water. (Back row, left to right) Alan McQueary and William Gabbard, Department for Surface Mining Reclamation and Enforcement; Jennifer Turner, Division of Forestry; Stacy Witt, Division of Waste Management; Rob Miller, Upper Cumberland Watershed coordinator; Karen Landry, Division of Energy; Linda Kemp, Mike Hannon and Lillie Cox, Division for Air Quality.*

Cabinet photos



**ABOVE:** Forester Dylan Jones helps steady the paper of a student as he makes a color impression of a tree leaf. The Division of Forestry display helped children identify Kentucky tree species.



**ABOVE RIGHT:** Rob Miller, Division of Water, uses the Nonpoint Source Enviroscope to demonstrate problems caused by runoff. Cocoa (dirt), red and green Kool-aid (pesticides and fertilizers), styrofoam (litter) and water (rain) are used to provide a visual for children to understand the effects of runoff problems in creeks and streams.

**RIGHT:** A Wayne Co. Elementary School student (center) helps McLean Co. High School cast members by holding a “Do Your Share for Cleaner Air” sign during a puppet skit “The Perils of Pol Lution.”

**FAR RIGHT:** Jeremy Compton, a student at Southwestern High School, holds an eagle at the Conservation Club Raptor program booth.



# A Water Odyssey awaits at the Kentucky State Fair



By Stephanie Darst  
Kentucky State Fair

Water will be everywhere as the environment takes center stage at the Kentucky State Fair in August. The fair's education program kicks off a new series of themes to bring fairgoers a mixture of history and science. The first theme in the series is *2001: A Water Odyssey*, a landmark teaching exhibit about watersheds and each individual's responsibility for water quality.

*2001: A Water Odyssey* is a chance to experience the largest water exhibit in Kentucky history. It will occupy more than 22,000 square feet in the south wing of the Kentucky Fair & Exposition Center in Louisville.

Visitors can set out on an exciting adventure, navigating a giant living stream to various stations of discovery about Kentucky's water resources. A 220-foot-long interpretive stream landscape will represent watershed features such as headwaters, springs, riparian zones and wetlands. Various activities that impact water will be represented throughout the landscape including agriculture, forestry, mining and urban development. Fairgoers will also learn creative ways to prevent water pollution at home in the lawn and garden display. Illustrated panels scattered throughout the landscape will teach about the nation's largest water quality problem—nonpoint source pollution.

As they explore this watershed, fairgoers will observe demonstrations including the construction of a wetlands area, daily testing of the stream's water, various water-related experiments and the operation of a miniature lock and dam. Children will love the "Models Arcade," an interactive playground featuring a dozen displays that teach about water in a

hands-on way. Everyone will be in awe of the mammoth, 35-foot-long aquarium featuring fish species from the Ohio River.

A giant floor map of Kentucky with the 13 major watersheds delineated will help visitors see how their county fits within larger river basins. At scheduled times daily, visitors will participate in

high-energy, geography-based game shows on the map, modeled after the Carmen Sandiego television show. Game show questions will reinforce the educational goals of the project.

Make your plans now to tour this free exhibit during the Kentucky State Fair, Aug. 16-26.



Work on this exhibit is funded in part by a grant from the U.S. Environmental Protection Agency under Section 319(h) of the Clean Water Act through the Kentucky Division of Water to the Kentucky State Fair Board. Because of this generous funding, many new models and displays will be created for the fair and donated to water education organizations for continued use after August 2001.

## Cabinet to build illegal dump at state fair

By Matt Hackathorn  
Division of Waste Management

The piles of trash you see at the state fair won't be leaflets and giveaways discarded by fairgoers. They'll be part of a unique exhibit to help educate the public and raise awareness about a chronic problem plaguing the Bluegrass.

The Natural Resources and Environmental Protection Cabinet (NREPC) will recreate an authentic open dump as a demonstration of how this illegal activity mars the natural beauty of Kentucky and pollutes our air, soil, streams and groundwater.

The cabinet's open dump exhibit will be located in the "Main Street Kentucky" section of the Louisville Fair and Exposition Center's south wing. The main educational exhibit in the south wing this year is called *2001: A Water Odyssey* and focuses on watersheds.

"Our open dump display will tie in quite well with the watershed exhibit, since illegal dumps directly impact water quality," said James E. Bickford, secretary of the NREPC. "We intend to show people who may never have seen an open dump what one looks like, as well as inform them about the negative impact that illegal dumping has on our environment."

The exhibit will also depict a clean county to promote the governor's new Kentucky Certified Clean County program. Designed as both educational and fun, the exhibit will offer adults the opportunity to compete for prizes through an ongoing trivia contest. Children may test their understanding of the environment by stepping up and spinning the Wheel of Knowledge for prizes.

If you'd like more information about the Natural Resources and Environmental Protection Cabinet's participation in the state fair, contact Matt Hackathorn at (502) 564-6716, or send him an e-mail at [Matthew.Hackathorn@mail.state.ky.us](mailto:Matthew.Hackathorn@mail.state.ky.us).



For further information about the Kentucky State Fair, visit [www.kystatefair.org](http://www.kystatefair.org). To book a field trip, contact the tour coordinator at (502) 367-5209 or e-mail [KFEC.Intern@mail.state.ky.us](mailto:KFEC.Intern@mail.state.ky.us). For information about class projects or to volunteer for *2001: A Water Odyssey*, e-mail Stephanie Darst at [sdarst@home.com](mailto:sdarst@home.com). Volunteers are needed to help construct the watershed landscape during Aug. 7-15 and to staff exhibits during Aug. 16-26.

# Contest focuses kids on water resources

By Martin Bess  
Division of Conservation

Every day we turn on the faucet, and most of us in Kentucky have safe water for drinking, cooking, bathing, cleaning and washing clothes. Without it, we can live for only a few days. Protecting it means being aware of the ways we affect water quality in our own areas.

Students will get the chance to learn more about the importance of water and express their opinions and ideas on this issue in the annual Conservation Writing Contest and the Jim Claypool Art Contest. The contest theme is *2001: A Water*

*Odyssey in Kentucky* and is linked to this year's special focus on watersheds at the Kentucky State Fair.

Contest rules will be available at the fair in August and at all local conservation districts and Kentucky Farm Bureau offices beginning in September.

Students through grade five are eligible to participate in the art contest, while students through grade 12 are eligible for the writing contest. Students may not enter both contests during the same school year. Schools will select their top entries and submit them to their local conservation district offices by Dec. 1, 2001. Winners will be announced

in May 2002.

The Courier-Journal, Kentucky Farm Bureau, Kentucky Association of Conservation Districts and Kentucky Division of Conservation sponsor the contests in cooperation with other state and federal agencies.

For more information about the contests, contact your local conservation district office, the Kentucky Division of Conservation at (502) 564-3080 or visit [http://www.courier-journal.com/youngachievers/con\\_writingart.htm](http://www.courier-journal.com/youngachievers/con_writingart.htm). You may also e-mail [martin.bess@mail.state.ky.us](mailto:martin.bess@mail.state.ky.us) for details.



## Awards

### Kentuckians honored at Earth Day ceremony

By Lola Lyle  
Environmental Quality Commission

A ladder manufacturing company, a forester and several elementary school classes are among those who received Earth Day awards from the Kentucky Environmental Quality Commission (EQC).

The awards recognize Kentuckians for their outstanding commitment and service in protecting the environment. The EQC honored its award winners on April 18, 2001, in Frankfort to celebrate the 31<sup>st</sup> anniversary of Earth Day. This year's award recipients are:

- EQC Public Servant Award—State Rep. Greg Stumbo (Floyd County)—for his efforts to address the growing problem of litter and open dumping in Kentucky.
- Campbell County Jaycees—for the group's efforts to sponsor the CRIK (Creek Restoration in Kentucky) program aimed at cleaning up waterways in Boone, Kenton and Campbell counties.
- Dr. Gordon Weddle (Taylor County)—for working to create the 140-acre Clay Hill Memorial Forest at

*Serena Williams, a member of the EQC (middle), presented the award to David Foster, American Cave Conservation Association (left), and Joanne Smith, mayor of the City of Horse Cave (right). EQC photo*



Campbellsville University to serve as a preserve and an environmental resource center for the university and community.

- David Wicks (Jefferson County)—for his efforts as environmental director of the Jefferson County school system to promote environmental awareness through learning.
- David Foster, American Cave Conservation Association, and the City of Horse Cave (Hart County)—for their cooperative efforts to restore Hidden River Cave.
- Steve Kickert, Daniel Boone National Forest—for his commitment to protecting the forest and teaching young people about the forest environment.
- Werner Company--Kentucky Ladder Division (Carroll County)—for diverting half a million pounds of wood waste generated each month from a landfill to a beneficial fuel for a soybean

processing plant.

- Letcher County Conservation District—for initiating numerous projects designed to promote conservation and protection of our natural resources.
- Isonville, Sandy Hook and Lakeside Elementary Schools, and Elliott County Extension Service—for working together to educate the public about forest management and stewardship through their "What is Forestry?" booklet.
- McKell Elementary School and MarkWest Hydrocarbon Inc. (Greenup County)—for creating a wildlife preserve to benefit the community and enhance the environment.
- Janie Douglass (Jefferson County)—posthumous for a lifetime of service—for her role in shaping environmental policies and her commitment to protecting the environment.



# Nature enthusiasts take a hike

By Nick Drozda  
Kentucky State Nature Preserves Commission

This spring, more than fifty people took advantage of the opportunity to view the spectacular beauty and scenery of Pine Mountain and to walk in Blanton Forest, the largest tract of old-growth forest remaining in Kentucky.

The events were part of the celebration of the 25<sup>th</sup> anniversary of the Kentucky State Nature Preserves Commission (KSNPC).

Mountain Wildflower Weekend featured guided hikes with KSNPC botanists on three state nature preserves located on Pine Mountain—Bad Branch, Blanton Forest and Hi Lewis Pine Barrens. In addition, Park Naturalist Dean Henson led a hike at Pine Mountain State Resort Park and State Nature Preserve.

Highlights of the weekend included the opportunity to see several of Kentucky's rare plants, such as Pink lady slipper, Showy orchis, Rose-bay, Flame azalea, Little brown jugs, Indian cucumber-root, Bead-lily, and Rock harlequin. Dr. Allen Risk of Morehead State University, an expert on mosses and liverworts



*Showy orchis (Orchis spectabilis) on Pine Mountain.* KSNPC staff photo.

(the plants that botanists call bryophytes) gave a talk on bryophyte identification and led a hike to Bad Branch State Nature Preserve.

The Kentucky State Nature Preserves Commission works to protect biological diversity and educate Kentuckians about it. Visit the commission's Web site at [www.kynaturepreserves.org](http://www.kynaturepreserves.org) for more information about commission activities and scheduled hikes.



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